

Purdue University

**Purdue e-Pubs**

---

Historical Documents of the Purdue  
Cooperative Extension Service

Department of Agricultural Communication

---

1-1-1976

## Cytospora Canker of Spruce

Paul C. Pecknold

Walter R. Stevenson

Donald H. Scott

Follow this and additional works at: <https://docs.lib.purdue.edu/agext>

Plant Disease Control

---

Pecknold, Paul C.; Stevenson, Walter R.; and Scott, Donald H., "Cytospora Canker of Spruce" (1976).  
*Historical Documents of the Purdue Cooperative Extension Service*. Paper 413.  
<https://docs.lib.purdue.edu/agext/413>

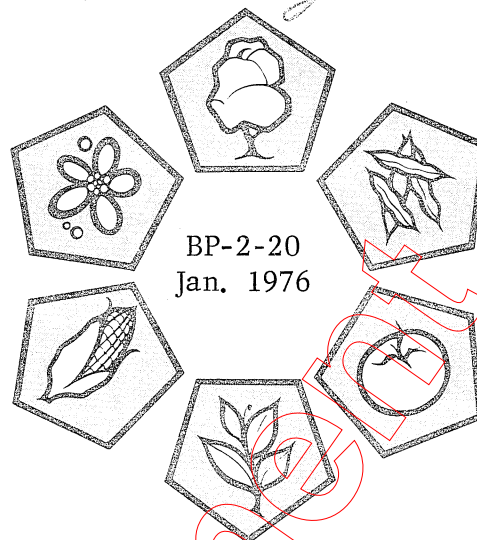
For current publications, please contact the Education Store: <https://mdc.itap.purdue.edu/>

This document is provided for historical reference purposes only and should not be considered to be a practical reference or to contain information reflective of current understanding. For additional information, please contact the Department of Agricultural Communication at Purdue University, College of Agriculture: <http://www.ag.purdue.edu/agcomm>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact [epubs@purdue.edu](mailto:epubs@purdue.edu) for additional information.

*Purdue University*  
*Department of Botany and Plant Pathology*  
*Lilly Hall of Life Sciences*

## Plant Disease Control



### Cytospora Canker of Spruce

Paul C. Pecknold, Walter R. Stevenson and Donald H. Scott  
Extension Plant Pathologists

The regal beauty of many ornamental spruce plantings has been destroyed by *Cytospora* canker. This damaging stem disease is most commonly found on Norway and blue spruces; however, hemlock and other conifers may also be stricken. *Cytospora* canker is most always associated with older and/or weakened trees, trees whose lower branches or roots have been injured, and trees which are growing in restricted sites or in other poor growing situations. It is seldom a problem on young, vigorous trees.

#### Symptoms

*Cytospora* canker first affects the lower branches and gradually progresses upward; high branches are rarely attacked. Needles on affected branches turn brown, die and begin to drop off, resulting in a dead, naked branch.

Mite injury is similar to that described and is therefore often confused with *Cytospora* canker injury. To check for mites, hold a sheet of white paper under a branch and tap the branch sharply. If mites are present, they will fall off and be seen crawling over the paper (see Publication E-42 for further information on identification and control of mite damage).

Branch cankers (infected areas) are often difficult to find, but are generally located

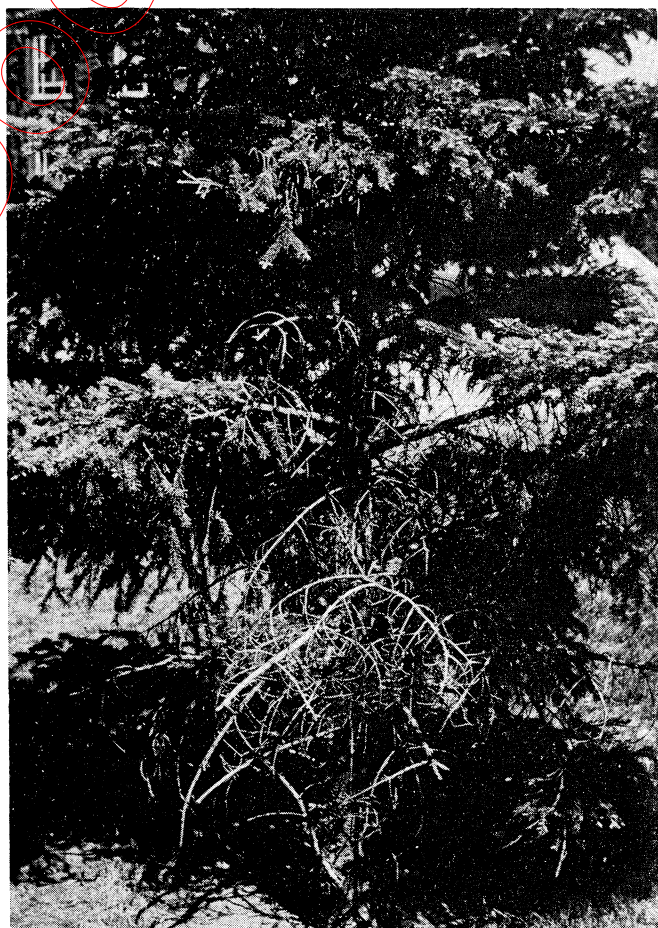


Figure 1. Defoliated lower branches caused by *Cytospora* canker.

well back on the branch near the trunk of the tree. A bluish white resin or pitch frequently coats the cankered area of the branch and is an important diagnostic symptom of *Cytospora* canker. This sticky resin will frequently drip onto the trunk and branches below; often extensive accumulation of resin occurs. Other factors, however, may also cause resin flow, such as insect injury, sapsucker wounds, or mechanical damage; be sure to check for such other possible causes of resin flow.

### Cause

*Cytospora* canker is caused by the fungus *Cytospora kunzei*. Small, black fruiting bodies of the fungus are produced in the cankered area of the bark. After a moist period, orange-colored, curled tendrils of spores exude from the fruiting bodies and are spread by splashing rain, wind, or pruning tools. The fungal spores readily invade wounds or other weakened tissue; it is not known if the fungus can infect an unwounded tree. Infection appears to take place most frequently in early spring or late fall. We do not yet know if infection can occur at other times of the year.

### Control

Since older, weakened trees are most susceptible to *Cytospora* canker, it is important to maintain and/or improve tree vitality. When planting new trees, choose a site with good, moist, well-drained soil. Avoid planting trees near any structure (roadways, sidewalks, building foundations, etc.) which might restrict root growth.

With older, well-established trees, avoid any disturbance to the root system which may result in root injury or poor root growth. See BP-2-15. Fertilize every 3 years with a complete fertilizer such as 12-12-12. During summer droughts and in late fall, water trees thoroughly; a suitable mulch -- such as grass clippings -- will help retard soil moisture loss.

Where possible (without destroying tree appearance) selectively prune out branches



Figure 2. White resin flow -- a characteristic symptom of *Cytospora* canker.

which retard air movement near the base of the tree. These low branches are also frequently wounded by lawnmowers, pets, and general traffic and thus are most frequently invaded by the fungus.

All diseased branches should be cut off flush with the tree trunk. Remember that pruning during wet periods can spread the disease. DO NOT prune when moisture is present; prune only when the foliage and bark are DRY.

Reports indicate that spraying with Bordeaux mixture (8-8-100) after the removal of diseased branches has been helpful in retarding disease spread. It is also likely that early spring and late fall applications of Bordeaux mixture would be beneficial in preventing further infection; however, further study is required to determine the effectiveness of these and other chemical applications.